



# Department of Development Services

## Building Division

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Ronald L. Lynn, Director/Building Office • Gregory J. Franklin, Assistant Director

**TITLE: TG-65-2009 TEMPORARY EXHIBITION STRUCTURES**

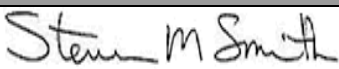

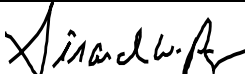
**SCOPE:** This Guideline describes the requirements for the fire protection and life safety features and the Fire Protection Report (FPR) for the assembly, occupancy and disassembly of Temporary Exhibition Structures not otherwise classified as temporary membrane structures, canopies, special amusement buildings and tents. These provisions apply to outdoor temporary structures used in the convention, trade show and exhibition industry and are erected in the Clark County Resort Corridor.

Temporary exhibition structures include all multi-level exhibits and platform exhibits greater than 400 square feet (1.8 m) and other exhibit structures that have solid (hard shell) sides not governed by the Southern Nevada Building Code or Clark County Fire Code. Their use period is not to exceed 180 days.

**PURPOSE:** This guideline exercises the Clark County Fire Department Fire Prevention Bureau's authority to require permit applicants to seek technical assistance and technical opinions according to Section 103.1.1 of the Clark County Fire Code. The technical assistance is required for evaluations of structures that are not regulated or under permits issued by Clark County Development Services (CCDS). The required technical report and supporting documents may also serve as Alternate Materials and Methods as allowed by Section 103.1.2 of the Clark County Fire Code.

CCDS maintains a list of approved third party Quality Assurance Agencies (QAA) that is to be used when QAA special inspections of the temporary exhibition structures are required. FPR's are to be prepared by Fire and Life Safety Professionals registered in the State of Nevada and working within their areas of expertise.

**APPROVED DATE: SEPTEMBER 14, 2009**  
**EFFECTIVE DATE: OCTOBER 5, 2009**

		
Steven M. Smith Fire Chief	Ronald L. Lynn Director/Building Official	Girard W. Page Deputy Fire Chief

## DEFINITIONS:

The following are special definitions within the context of this Guideline:

Crowd Managers: Uniformed or otherwise identified security personnel with fire reporting and evacuation duties. They are to be in continuous communication with an active Proprietary Monitoring Station for the building occupied or Incident Command Center for events held without a Proprietary Monitoring location. The minimum qualifications for a Crowd Manager are as follows:

- a) Be physically capable and contracted to patrol the building during the duration of an eight hour shift. The floor should be patrolled in a time period not to exceed five minutes, with the entire building being toured every 15 minutes.
- b) Patrol the designated areas and other fire exposures continuously during the entire period (except for breaks) and continue duties for 30 minutes after the conclusion of the event.
- c) Be equipped with and able to use a bullhorn (or other loud sounding device), flashlight, remote radio and cellular phone.
- d) Be capable of and willing to assist occupants vacating the building in an emergency situation while utilizing a flashlight to illuminate the path of egress for evacuating occupants.
- e) Be trained in the use of a portable fire extinguisher and capable of extinguishing incipient fires utilizing a portable fire extinguisher.
- f) Be instructed in and familiar with emergency notification, evacuation procedures and capable of notifying employees of an emergency and then assisting employees to evacuate the building.
- g) All Crowd Managers on the property are responsible for relaying the alarm and assisting in the evacuation after a fire condition is discovered or other emergency occurs.
- h) Upon discovery of a fire, Crowd Managers contact the CCFD immediately (Dial 9-1-1), then advise all other Crowd Managers of the emergency in order to obtain their assistance in notifying and evacuating employees.

Exit Access Travel Distance: Distance from any point within a building to an exit.

Fire Department Ingress Points: Locations where emergency responders can access the Temporary Exhibition Structure.

Fire and Life Safety Professionals: Professionals with training and knowledge specific to fire protection engineering or building life safety design that are registered in the State of Nevada to provide such services.

## REQUIRED SUBMITTALS

The Applicant shall process a Temporary Membrane Structure Permit Application. Items 1 through 6 are to be provided at the time of application. Application should be submitted a minimum of four weeks prior to the event. Items 7 and 8 are to be complete at the time of the CCFD final inspection.

1. CCFD requires a Fire Protection Report (FPR) for all Temporary Exhibition Structures covered by this guideline. The report shall cover the fire and life safety requirements noted below and include a statement of the Fire and Life Safety Professional's assessment of the structure. The report shall be sealed by a State of Nevada Registered Engineer or Architect.
2. Certification(s) of all membrane materials for the roof and walls, fabric hangings and drapes and any other textile interior finishes. Membrane materials, fabrics, drapes and textile interior finishes are to be certified as meeting the requirements of *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, NFPA 701, 1999 edition*, Test Method 2. California State Fire Marshall, Title 19 Flame-Retardant Fabric Certifications are not acceptable in lieu of NFPA 701 testing.
3. A Certificate of Insurance issued by an insurance company authorized to transact business in the State of Nevada shall be provided. The structure's Operator or Owner shall be named as the insured. Clark County Nevada, its agents, employees and volunteers shall be named as additional insureds and certificate holder. The limit of liability shall be a minimum of \$1,000,000. A greater limit of liability may be required at the direction of the Chief.
4. A scaled diagram of the site for each structure submitted that includes the dimensions of all fire access lanes, fire hydrants and distance from the hydrant to the structure. It shall also include the separation distances between all structures and generators.
5. Scaled floor plans for each level showing dimensions of egress elements and fire and life safety equipment, (i.e. fire extinguishers, exit signs, emergency lighting and fire alarm features) seating arrangements, furniture, booths, displayed vehicles etc.
6. Opinion of structural stability sealed by a State of Nevada registered Structural Engineer. A copy of this form is attached.
7. A copy of the *Third Party Plan Reviewer Designation & Construction Documents Approval* form that has been completed by a CCDS approved QAA after construction of the structure. A copy of this form is attached.
8. CCFD permits for other equipment or displays used for the event including flammable/combustible liquids (for generators), open flame, vehicle display, etc.

## **FPR and TEMPORARY STRUCTURE MINIMUM REQUIREMENTS**

### Construction and Site Conditions

1. The Temporary Structure shall have exterior and interior fire department access and fire fighting equipment shall be readily accessible. The Temporary Structure shall have exterior routes for pedestrian traffic so that personnel being evacuated from the building may have safe routes to Assembly Points.
2. All locations of the Temporary Structure are to be within 300 feet (91.4 meters) of an unobstructed fire hydrant.
3. The shall be at least 24 feet (7.2 meters) of fire separation distance between a Temporary Exhibition structure and any other structure.
4. Interior finish, that is does not consist of membrane material complying with NFPA 701, shall comply with Chapter 8 of the 2009 edition of the International Fire Code with Southern Nevada Amendments.
5. The highest occupied walking surface, platform or cat-walk shall not exceed 30 feet (9.1 meters) above the lowest level of fire department access.
6. A minimum 24-foot (7.2 meter) wide unobstructed fire lane shall be provided on at least two sides of every structure. The site diagram shall show the continuous lane from the public way. Locations for Fire Department Ingress are to be identified.
7. Concealed spaces under the structures, ramps and platforms shall be provided with solid skirting to prevent storage and accumulation of debris.
8. Platforms may not exceed 4 feet 10 inches (1.5 meters) in height above the ground level and not include trap doors, concealed rooms or storage. (This does not prohibit mezzanines with two exits.)

### Fire Suppression

9. Automatic sprinklers are required in any Temporary Structure having a total occupied area exceeding 20,000 square feet (1,858 square meters).
10. Provide a minimum 2A10BC rated fire extinguisher for every 3,000 square feet (278.7 square meters) within 75 feet (22.8 meters) of travel distance on every level.

### Fire Alarm and Electrical Service

11. A voice notification system shall be required for structures exceeding 20,000 square feet (1,858 square meters). The design shall meet the audibility requirements of the 2007 edition of the National Fire Alarm Code, NFPA 72. System design shall be detailed in the Fire Protection Report.

12. Only industrial grade wiring may be used. Electrical installation shall be accomplished by qualified electricians.

Means of Egress – Exiting Systems:

13. Each Temporary Structure's minimum occupant load shall be based on 15 square feet (1.4 meters) per person. Other conditions, that have greater occupant loads, are to be evaluated according to Table 1004.1.1 of the 2009 edition of the International Fire Code. Structures found to exceed the maximum occupant load (over crowded) shall be ordered closed by CCFD.

14. Exits shall be sized according to the exit capacity factors given below:

OCCUPANT LOAD	MINIMUM NUMBER OF EXITS	MINIMUM WIDTH OF EACH EXIT (inches)
10 to 199	2	36
200 to 499	3	72
500 to 999	4	96
1,000 or greater	5	120

15. There shall be a minimum of two exits from each level above grade. Exits shall be separated by not less than 1/2 the diagonal of the space and not less than 25 feet (7.6 meters) apart.
16. Doors that latch are to be provided with fire exit hardware (panic hardware).
17. At least one exit from levels above grade shall discharge to an exterior stair that has no more than one 90 degree turn.
18. Stairs riser heights shall be 7 inches (178 mm) maximum and 4 inches minimum (102 mm). The risers shall be close faced. Stair tread depths shall be 11 inches (279 mm) minimum.
19. Handrails and guards shall be installed in accordance with Sections 1012 and 1013 of the IFC such that a 4-inch (101.6 millimeter) diameter sphere cannot pass through any opening.
20. The travel distance to an exit shall not exceed 100 feet (30.4 meters).
21. Self contained emergency lighting and internally illuminated or UL listed self-luminous exit signs shall be provided. A second emergency power circuit shall be provided if emergency lighting and exit signs are powered by an electric circuit.

### Crowd Managers and Inspections

22. Crowd Managers shall be in place at all times of public occupancy for all Temporary Structures exceeding 5,000 square feet (464.5 square meters). Crowd Managers shall be provided for facilities or events where more than 1,000 persons congregate. The minimum number of Crowd Managers shall be established at a ratio of one Crowd Manager per every 250 persons and there shall be enough relief Crowd Managers to facilitate breaks and meal times. Where approved by the fire code official, the ratio of Crowd Managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system or based upon the nature of the event per Section 403.3 of the 2009 edition of the International Fire Code.
23. Commercial cooking (beyond warming), smoking, pyrotechnics and flame effects are not allowed in Temporary Structures
24. A CCFD Fire Inspector will survey the Temporary Exhibition Structure to verify that the required features and personnel are provided.

### Structural Stability

25. The Structural Analysis shall consider the following design parameters:
- Wind load calculation based on ASCE – 7.1, 2005 edition with a Class B, 90 mph wind speed with a three second gust exposure.
  - Snow load of 15 psf or defined snow mitigation measures.
  - Seismic load to be confirmed as negligible for short duration events within weight limitations set forth by a Registered Structural or Civil Engineer. Should the Structural Engineer require a seismic analysis the loads shall be: 10 psf for the roof assembly, 25 psf for the floor assembly and 15 psf for exterior walls.



# Development Services Department

## County of Clark, State of Nevada

### <<>> TEMPORARY BUILDING <<>>

Project Name:

Project Location:

Date:

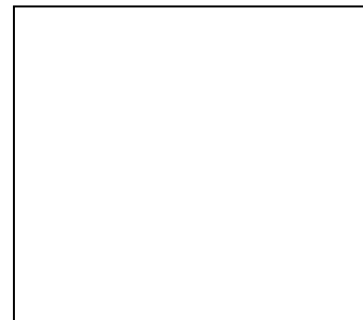
Dates of use:

I \_\_\_\_\_ a Nevada Registered Design Professional, License Number \_\_\_\_\_ have evaluated the design of the subject project and find the design satisfactory for the intended use and occupancy. Additionally, I have verified that the design methods include the indicated roof and floor loads. The lateral load resisting system is sufficient to provide stability to the structure.

Roof Live Load

Floor Live Load

Registered Design Professional





# Development Services Department

County of Clark, State of Nevada

<<>> TEMPORARY BUILDING <<>>

## Third-Party Plan Reviewer Designation & Construction Documents Approval

FPB-PERMIT # C-

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### (A) Third-Party Plan Reviewer Designation

Project Name: \_\_\_\_\_

Project Address: \_\_\_\_\_

Third-Party Plan Reviewer Firm: \_\_\_\_\_

Owner's Name: \_\_\_\_\_

Owner's Signature: \_\_\_\_\_

Third-Party Plan Reviewer concurrence by CCDDS-BD/FPB: \_\_\_\_\_

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### (B) Construction Documents Review

Code Requirements were noted on Construction Documents: ☐ Yes ☐ No

Date Reviewed: \_\_\_\_\_

Reviewed By (Name): \_\_\_\_\_

Reviewed By (Signature): \_\_\_\_\_

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**Received by FPB**

: \_\_\_\_\_

☒ **FPB to review & approve the Construction Documents for Compliance with the Fire Code**

This Form Must Be Completed Prior To Submitting A Permit Application With CCFD